

maintenance, repair, and replacement under the case-by-case test.

A. Annual Maintenance, Repair and Replacement Allowance

First, we are proposing to add new language to the RMRR exclusion at 40 CFR 51.165 (a)(1)(v)(C)(1), 40 CFR 51.166 (b)(2)(iii)(a), 40 CFR part 51, Appendix S (A)(5)(iii)(a), 40 CFR 52.21(b)(2)(iii)(a), and 40 CFR 52.24(f)(5)(iii)(a). This proposal would allow certain activities engaged in to promote the safe, reliable and efficient operation of a facility—that is, those that involve relatively small capital expenditures compared with the replacement cost of the facility—to be excluded from NSR provided that total costs did not exceed the annual maintenance, repair and replacement allowance. The annual maintenance, repair and replacement allowance and the rules for calculation and summation of activities under the allowance would be defined in new provisions at 40 CFR 51.165(a)(1)(xxxvii), 40 CFR 51.166(b)(53), 40 CFR 52.21(b)(55), and 40 CFR 52.24(f)(25).

Under our proposed approach, a calendar year maintenance, repair and replacement allowance would be established for each stationary source. The owner or operator may elect to use a fiscal year period instead of a calendar year if financial records are typically kept for a period other than calendar year at a facility.² Although the proposal contemplates a one-year allowance, in recognition of the fact that maintenance cycles in many industries extend for more than 1 year, we also seek comment on whether a stationary source should have the option of a multi-year allowance, such as over 5 years.

Under our 1-year allowance proposal, an owner or operator would sum the costs of the relevant activities performed at the stationary source during the fiscal or calendar year (from the least expensive to the most expensive) to get a yearly cost. For activities taking more than 1 year to complete, costs associated with those activities would be included in the cost calculations for the year that the costs were incurred (using an accounting method consistent with that used for other purposes by the stationary source). If the total costs for all activities undertaken for these purposes came within the annual maintenance, repair and replacement allowance, these activities would all be considered RMRR activities. Other than documentation of the results of this assessment, the owner or operator

would not have to do anything further with respect to those activities for purposes of major NSR.

Where total yearly costs for all activities undertaken for these purposes at a source exceed the annual maintenance, repair and replacement allowance, the activities would be reviewed as follows.

- The owner or operator would subtract activities from the total yearly cost, starting with the most expensive activity, until the remainder is less than or equal to the annual maintenance, repair and replacement allowance.
- The owner or operator would evaluate on a case-by-case basis in accordance with EPA's case-by-case test any activities that did not come within the allowance and that are not otherwise excluded, in order to determine whether they are RMRR. If uncertain about a particular activity the owner or operator could seek an applicability determination.
- If an owner or operator concluded that any such activity was not RMRR, he or she would then have to determine whether it constitutes a "major modification" that requires an NSR permit.

The annual maintenance, repair and replacement allowance would be equal to the product of the replacement cost of the source and a specified maintenance, repair and replacement percentage. (See §§ 51.165(a)(1)(xxxvii), 51.166(b)(53), 52.21(b)(55) and 52.24(f)(25) of proposed rules.) EPA intends to set this percentage on an industry-specific basis. There are several ways in which the percentage could be established. One way is to set the threshold so as to cover the RMRR capital and non-capital costs that an owner or operator incurs to maintain, facilitate, restore, or improve the safety, reliability, availability, or efficiency of the source. We are also requesting comment on other approaches. For example, we could apply a discount factor to the typical costs in order to account for variability within an industry. We also ask for comment on how to determine typical costs for particular industries. We are considering using the Internal Revenue Service "Annual Asset Guideline Repair Allowance Percentages" (AAGRAP), which we use for an exclusion under the New Source Performance Standard (NSPS) program for increases in production. We also could rely on industry specific data for choosing an appropriate threshold, such as the North American Electric Reliability Council Generating Availability Data System (NERC/GADS) database or standard industry reference manuals.

The replacement cost used in the calculation described above would be an estimate of the total capital investment necessary to replace the stationary source. The accounting procedures used to document eligibility under this rule should conform to the accounting procedures used for other purposes at a facility. Where several accounting procedures are used at a facility (e.g., methods for tax accounting and for setting rates often are different), the most appropriate procedures should be used for the purpose of determining costs pursuant to this regulation.

EPA also seeks to standardize practices for estimating this investment, along the lines described in the *EPA Air Pollution Control Cost Manual*, excluding the costs for installing and maintaining pollution control equipment. See section V.E. of this document for further information on our recommended approach to calculating costs. The control cost manual is available electronically via the internet at http://www.epa.gov/ttn/catc/dir1/c_allchs.pdf. We acknowledge that this manual is geared toward cost calculations for add-on control equipment but believe the basic concepts can be applied to process equipment as well. These concepts are taken from work done by the American Association of Cost Engineers to define the components of cost calculations for all types of processes, not just emission control equipment. We seek comment on whether this manual or other reference documents or tools provide the best approach for standardizing estimation of these costs, whether different methods should be provided, and whether provision should be made in the form of a requirement or an assurance that if a method is used, we will accept it.

Our recommended approach will contain safeguards to help ensure that activities that should be considered a physical change or change in the method of operation under the regulations are ineligible for exclusion from NSR under the annual maintenance, repair and replacement allowance. We are proposing to exclude the following from use of the annual allowance.

- The construction of a new "process unit," which is a collection of structures and/or equipment that uses material inputs to produce or store a completed product. See discussion below at section VII for further information regarding process units.
- The replacement of an entire process unit
- Any change that would result in an increase in the source's maximum

² A fiscal year period would have to be 12 consecutive months.

achievable hourly emissions rate of any regulated NSR pollutant, or in the emission of any regulated NSR pollutant not previously emitted by the stationary source.

If an owner or operator uses the annual maintenance, repair and replacement allowance to determine that certain activities at a stationary source are RMRR, all relevant activities performed at that source must be included in the annual cost calculations unless the owner or operator elects to obtain a major NSR permit for the activity. In other words, an owner or operator may not select which activities to review case-by-case and which to include in the cost calculations when using the annual maintenance, repair and replacement allowance to determine RMRR activities. This is because, assuming the threshold is set to approximate the total amount that an owner or operator would typically be expected to spend on RMRR activities (or a discounted portion of this value selected to account for variability within an industry), the fact that a given activity's cost comes within the allowance can only reasonably assure that it is RMRR if all other relevant activities also are included. If the owner

or operator could pick and choose among activities that he or she wished to include in the allowance, such an approach might allow the owner or operator to include large, atypical activities that do not constitute RMRR within the allowance, while applying the case-by-case test to smaller activities that quite clearly constitute RMRR under that test. The rule that all relevant activities must be included in the calculation and that lowest cost activities would be counted first should provide sufficient protection against this risk.

Owners or operators electing to use the annual maintenance, repair and replacement allowance to determine RMRR activities will be required to submit an annual report to the appropriate reviewing authority within 60 days after the end of the year over which activity costs have been summed. The report will provide a summary of the estimated replacement value of the stationary source, the annual maintenance, repair and replacement allowance for the stationary source, a brief description of all maintenance, repair and replacement activities undertaken at the stationary source, and the costs associated with those

activities. If the costs of activities in question exceed the annual maintenance, repair and replacement allowance for a stationary source, the report must identify the activities included within the allowance and the activities that fell outside the allowance. The procedures set out in 40 CFR part 2 are available for confidential and business-sensitive information submitted as part of this report.

The following provides an example of how the process would work. Assume the source's annual maintenance, repair and replacement allowance equals \$2,000,000. During a given year, the owner or operator spends \$1,000,000 on running maintenance activities, and implements five other discrete maintenance activities at the source with costs as follows in Table 1 (none of these activities involves the construction of a new process unit, replacement of an existing process unit, or an increase in the maximum achievable hourly emissions rate of a regulated NSR pollutant or in the emission of any regulated NSR pollutant not previously emitted by the stationary source).

TABLE 1.—EXAMPLE SUMMARY OF ACTIVITIES COMMENCED DURING YEAR

Change	Month	Cost
Activity 1	January	\$200,000
Activity 2	March	600,000
Activity 3	April	360,000
Activity 4	July	150,000
Activity 5	November	250,000

The sum of costs incurred during the year is \$2,560,000, \$560,000 above the annual maintenance, repair and replacement allowance. The most expensive activity commencing during the year was the \$600,000 activity commencing in March. The source must evaluate on a case-by-case basis whether this activity is RMRR. When the cost of Activity 2 is subtracted from the total annual cost, the remainder is \$1,960,000, less than the annual maintenance, repair and replacement allowance. The remaining activities (Activities 1, 3, 4, and 5) are considered to be RMRR.

We note that this example is framed as if the owner or operator would make these calculations for the first time at the end of the year. In reality, however, an owner or operator who is considering relying on the maintenance, repair and replacement allowance as the basis for his or her conclusion that a particular activity is RMRR is likely to make these

calculations before beginning construction on any activity. This is because the owner or operator would know that he or she will only be able to rely on the allowance if the costs of the activity in question, when added with the costs of other activities to assure the safe, efficient, and reliable operation of the plant that the owner or operator is planning for the year, will in fact be within the allowance.

B. Equipment Replacement Provision

In addition to our proposed annual maintenance, repair and replacement allowance, today we are also soliciting comment on an additional approach to be used in the future for those replacement activities that should qualify without regard to other considerations as RMRR. Specifically, we are soliciting comment on whether replacing existing equipment with equipment that serves the same function and that does not alter the basic design

parameters of a unit should also qualify without regard for other considerations for RMRR treatment provided the cost of the replacement equipment does not exceed a certain percentage of the cost of the process unit to which the equipment belongs. While we believe the annual maintenance, repair and replacement provisions described above will significantly improve implementation of the RMRR exclusion, we recognize that the allowance may apply only to a subset of the activities that appropriately fall within the exclusion and that are susceptible of being identified as categorically constituting RMRR.³

³ Of course, as noted earlier, the traditional case-by-case approach to administering the RMRR exclusion will continue to apply to activities that do not qualify under the annual maintenance, repair and replacement allowance approach described above, but for the reasons noted earlier, we believe that approach would be improved on by the identification of activities that may be found to

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Accordingly, today we are soliciting comment on an additional approach to be used in the future for determining that certain replacement activities whose costs fall below a specified threshold qualify as RMRR without regard for other considerations. Under this approach, EPA would establish a percentage of the replacement value of a process unit as a threshold for applying the equipment replacement provision. If the replacement component is functionally equivalent to the replaced component, does not change the basic design parameters of the process unit, and does not exceed the cost threshold, it would constitute RMRR. This approach should enable the owner or operator to streamline the RMRR analysis and make this determination more readily and should further alleviate some of the problems noted above. We are soliciting comment on whether this approach would serve to streamline the RMRR determination process for activities that involve the replacement of existing equipment with identical new equipment and the replacement of existing equipment with functionally equivalent equipment. We are also soliciting comment on whether this approach should be adopted along with the annual maintenance, repair and replacement allowance described above, or whether this approach is preferred over the other such that we should only offer the equipment replacement provision in the final rule.

We also solicit comment on what provisions might be needed to clarify and facilitate implementation of a combined approach. For example, should the costs of activities that qualify as an excluded equipment replacement count toward the annual maintenance, repair and replacement allowance? And, if so, how should they be counted? We are also soliciting comment on whether any other category of activity undertaken for these purposes should be excludable by the owner or operator from the annual maintenance, repair and replacement allowance. For example, activities undertaken to address unanticipated forced outages or catastrophic events such as fires or explosions may be the kind of unforeseeable expenditure that an owner or operator should not have to include because it is not possible to plan for it. Also, the absence of an exclusion for such activities might be a disincentive for maintaining and ensuring safe operation. If excluded from the maintenance, repair and replacement allowance, these activities

constitute RMRR without requiring case-by-case consideration of this type.

could still qualify for RMRR status under the equipment replacement provision of this rule if they meet the criteria for that allowance or under the case-by-case analysis.

Finally, we are soliciting comment on other approaches that might be effective in streamlining the RMRR determination process.

V. Legal Basis for Recommended Approaches

The modification provisions of the NSR program in parts C and D of title I of the CAA are based on the broad definition of modification in section 111(a)(4) of the CAA. The term "modification" means "any physical change in, or change in the method of operation of, a stationary source which increases the amount of any air pollutant emitted by such source or which results in the emission of any air pollutant not previously emitted." That definition contemplates that you will first determine whether a physical or operational change will occur. If so, then you proceed to determine whether the physical or operational change will result in an emissions increase over baseline levels.

The expression "any physical change * * * or change in the method of operation" in section 111(a)(4) of the CAA is not defined. We have recognized that Congress did not intend to make every activity at a source subject to the major NSR program. As a result, we have previously adopted nine exclusions from what may constitute a "physical or operational change." One of these is an exclusion for routine maintenance, repair, and replacement. Today's rulemaking proposes two provisions that will improve and help carry out the purposes of this exclusion.

VI. Discussion of Issues Under Annual Maintenance, Repair and Replacement Allowance Approach

The following provides a discussion of the key issues we considered in developing our preferred approaches to addressing RMRR under the NSR program. We are requesting comment on all alternatives considered and any other viable alternatives. We are also interested in the impact the use of a cost-based approach such as the annual maintenance, repair and replacement allowance will have on reviewing authorities, such as the need for staff knowledgeable in cost estimation, and are requesting comment on this issue.

A. Appropriate Time Period for a Maintenance, Repair and Replacement Allowance

In developing a maintenance, repair and replacement allowance, we considered setting an allowance based on either a calendar or fiscal year or a multi-year limit. We believe that a limit applied over a specified period of time is more appropriate than an activity-based limit. We are proposing an annual limit, but we also believe that a multi-year limit is worthy of serious consideration as a possible option that could be chosen by owners or operators with multi-year maintenance cycles.

Under NSR, to determine applicability, the owner or operator of a major source must determine whether an activity performed at a source is a physical change or change in the method of operation that results in a significant emissions increase and a significant net emissions increase. NSR may apply to a single physical change or operational change at a single process unit, to several physical or operational changes at a single process unit, or to multiple changes across multiple process units, each of which changes can vary widely in scope and cost. Developing a maintenance, repair and replacement allowance on an activity basis would be consistent with this framework. However, the variability in the scope of such activities makes it difficult to establish an appropriate cost allowance for individual activities based on data currently available to us. On the other hand, the majority of information that is currently available to us does provide a reasonable basis for developing facility-wide, annual maintenance, repair and replacement cost estimates. In addition to the difficulty in establishing an activity cost limit, maintenance budgets are typically set on an annual basis rather than an activity basis, making an annual allowance more consistent with industry financial practices.

In choosing between an annual versus a multi-year limit, there are considerations pointing in both directions. The most important argument in favor of a multi-year option is that in a number of industries, maintenance cycles extend over multiple years. For example, petroleum refineries conduct regularly scheduled maintenance, referred to as a "turnaround," in cycles that can be as long as 8 years depending on the type of units and equipment involved and the particulars of the unit's operations. During a turnaround, all or part of the refinery is shut down, and the owner or operator undertakes numerous

maintenance, repair and/or replacement activities during the shutdown.

Similarly, the power generation sector performs regularly scheduled maintenance, inspections, and repair on varying cycles, which, depending on the equipment involved, can range from 12 months to a number of years. Like refineries, power generation facilities must conduct much of the inspection, maintenance, repair and replacement work when the units are shut down, and to minimize the frequency of scheduled outages, the owner or operator will undertake numerous activities during a given shutdown to minimize maintenance costs, minimize the need for replacement power, and maximize the availability of the units. As a result, for industries of this type, the cost of maintenance will vary significantly from year to year and may be distributed across several years.

An annual allowance for industries of this type may be unworkable if the allowance is set at the average of their maintenance costs during their maintenance cycle. But setting the level higher than the average runs the risk of sweeping in non-routine activity. In addition, an annual allowance might lead owners or operators in such industries to engage in more outages than is efficient in order to make sure that they were not losing a portion of their allowance. This could increase energy costs and reduce energy availability to consumers.

If a multi-year allowance were used, the same principles of summing the costs of activities from least to most costly and excluding the most costly activities from the allowance and instead subjecting them to case-by-case scrutiny would continue to apply.

This approach also may have its difficulties. For example, as the cycle gets longer, it is harder for owners or operators to project their costs for safeguarding the safety, reliability and efficiency of their plants farther into the future. This, in turn, may contribute to a rule that is more difficult to implement and enforce. If, through the after the fact case-by-case review, it is determined that certain activities should have been subject to the NSR program, all parties may be placed in the difficult situation of implementing a preconstruction review program for an activity that was begun or completed significantly prior to the applicability determination. This difficulty may arise to some extent even with a 1-year allowance period. But extending the period beyond 1 year increases both the possibility for this occurrence and the potential difficulties of an after-the-fact applicability determination for older

activities. Thus, while using a single year as the time period will reduce the flexibility for some owners or operators, we believe it will help to reduce the likelihood that an after-the-fact NSR review will be required. For these reasons, we are proposing the annual maintenance, repair and replacement allowance approach, but will also be giving serious consideration to the multi-year approach of up to 5 years. We are requesting comments on the approaches discussed above.

We are also proposing that the time period for the annual maintenance, repair and replacement allowance should be a calendar or fiscal year. If the owner or operator of a major stationary source uses a fiscal year that differs from a calendar year for accounting purposes, the proposed rule would allow the stationary source to elect to use that fiscal year for purposes of applying the annual maintenance, repair and replacement allowance. As proposed, once the choice is made, the choice is permanent. (See § 51.165(a)(1)(xxxix)(A)(1), § 51.166(b)(53)(i)(a), § 52.21(b)(55)(i)(a), and § 52.24(f)(25)(i)(a) of proposed rules.) We specifically ask for comment on this aspect of the proposal.

B. Cost Basis

Under our proposal, the replacement cost of a source would be multiplied by the maintenance percentage established by rule to determine the annual maintenance, repair and replacement allowance. (See § 51.165(a)(1)(xxxix), § 51.166(b)(53), § 52.21(b)(55), and § 52.24(f)(25) of proposed rules.) In developing the proposal, we also considered using an invested cost basis adjusted for inflation.

There can be advantages to using invested cost. The most obvious advantage is that knowledge of cost estimation is not necessary, because actual cost data would be used. However, complete invested cost information may no longer exist for older stationary sources, or it may not have been provided to the buyer when a source was purchased. As a result, we would still need to provide for an alternative for situations where invested cost data were not available.

In addition, even when adjusted for inflation, there could be inequities between facilities if an invested cost basis was used. Adjustment for inflation between sources will not likely take into account variations in site-specific costs such as land, labor, and materials, among others. Use of replacement cost, which takes into account site-specific factors to a greater degree, will put all regulated entities on a more equitable

footing. Moreover, most decisions regarding maintenance, repair and replacement are more likely to take into consideration the cost of replacement rather than the original invested cost.

We are proposing to use source replacement cost; however, we are requesting comment on other potentially appropriate bases for source cost, including invested cost, invested cost adjusted for inflation or any other viable methodology.

C. Basis for Annual Allowance— Stationary Source vs Process Unit

We are considering two approaches for administering the annual maintenance, repair and replacement allowance—the allowance could be established at either an entire stationary source (source) or at the process unit level. A comprehensive discussion of the term “process unit,” along with a proposed definition, is set forth in section VII, below. If we opt for the “process unit” approach, we would use the definition and concepts proposed in section VII. We are proposing the stationary source approach but seeking comment on both.

If the annual maintenance, repair and replacement allowance is established for the entire stationary source, the owner or operator would only have to track compliance with a single annual maintenance, repair and replacement allowance and would have greater flexibility in decision making with respect to maintenance, repair and replacement activities. It is our understanding that accounting of maintenance activities is most often performed at the facility level and, consequently, managing the RMRR annual maintenance, repair and replacement allowance from a facility-wide standpoint is more consistent with current industry practices. In large, complex manufacturing facilities such as refineries, several major processes are constantly being maintained but larger maintenance activities may be rotated throughout the plant during different years to accommodate fiscal and operating cycles. Requiring these facilities to divide their plants into separate process units for maintenance accounting would create disincentives to the source in administering the allowance. A source-wide approach also may be more sensible to account for situations in which shared services (e.g., electrical distribution, wastewater treatment) cannot be attributed to a single process at a facility.

On the other hand, setting the annual maintenance, repair and replacement allowance at the source-wide level presents the possibility that an owner or

operator could forego maintenance at some process units and engage in activities at others that are not truly RMRR and seek to use the maintenance, repair and replacement allowance as a shield for these activities. Setting the annual maintenance, repair and replacement allowance at the process unit level would help to alleviate this concern.

On balance, however, we are not persuaded that this concern is well-founded. If the allowance level is set correctly, the only way an owner or operator could attempt the kind of misuse of the allowance described above would be to forego maintenance, repair and replacement activities at other process units—activities that are important to keep those other process units in good working order. It seems unlikely that an owner or operator would think that a prudent or sensible course.

Finally, we note that it likely is more difficult to develop reliable estimates of what it typically costs an owner or operator to maintain a process unit. That being the case, the most likely way a process-unit-based allowance would be developed would be by taking the numbers that would underlie a source-wide allowance and allocating them to process units. This approach could present its own opportunities for gaming the system.

We are proposing to set the annual maintenance, repair and replacement allowance at the source-wide level. (See § 51.165(a)(1)(v)(C)(1), § 51.166(b)(2)(iii)(a), § 52.21(b)(2)(iii)(a), and § 52.24(f)(5)(iii)(a) of proposed rules.) We believe that this approach is, on balance, easier to implement for both the reviewing authorities and the industry and is more consistent with current industry maintenance and financial practices. We specifically request comment on the use of a source-wide limit, a process unit limit, or any other means of applying a cost threshold. In addition, as noted in section VII, we request comment on our proposed definition of process unit.

D. Basis for Annual Maintenance, Repair and Replacement Allowance Percentage

The proposed annual maintenance, repair and replacement allowance for each source would be determined by multiplying the replacement cost of the source by an annual maintenance, repair and replacement allowance percentage specified by rule. (See § 51.165(a)(1)(xxxix), § 51.166(b)(53), § 52.21(b)(55), and § 52.24(f)(25) of proposed rules.) As stated previously, the goal of this portion of the rule is to

provide a clear exclusion for the activities whose total costs fall below specified thresholds. We intend to set these thresholds on an industry-specific basis, and believe the following sources of information should be useful in establishing these thresholds: the IRS AAGRAP, standard engineering reference manuals, and actual industry data available to the EPA.

The IRS AAGRAP is the value used in an exclusion under the NSPS for increases in production. The IRS AAGRAP values provide repair allowance percentages for specific industries in order to reflect differing maintenance needs. These percentages range from 0.5 percent to 20 percent of invested cost. For instance, the aerospace industry has an AAGRAP value of 7.5 percent, electric utility steam generation has a value of 5 percent, and cement plants have a value of 3 percent. There is good reason to think that the industry-specific basis and the specific percentages are appropriate in the RMRR context. For example, the AAGRAP values have been used for over 20 years in the NSPS program, so they are time-tested and appear to work well in that context. Moreover, because the values were developed in the first instance to differentiate between costs that should be capitalized for tax accounting purposes and costs that properly should be expensed, the values should be well suited to distinguishing maintenance, repair and replacement from non-routine activities in the NSR context.

However, the AAGRAP is based on the invested cost of the facility, not the replacement cost, which may or may not require us to make some adjustments. Also, there are some industries for which an AAGRAP is not available. The policy reasons behind the use of AAGRAP in the tax context also may not be the same as those we need to consider in the NSR context, notwithstanding the fact that the AAGRAP has been used in the NSPS context. Finally, the IRS has moved to other approaches. We solicit comment on the extent to which the AAGRAP, or some derivative of the AAGRAP, may appropriately be employed if we determine that a safe harbor based on replacement cost is preferable.

There are also standard reference manuals that provide cost estimation information that is considered to be up to date. *Plant Design and Economics for Chemical Engineers*, by Peters and Timmerhaus, and *Perry's Chemical Engineer's Handbook*, by Perry and Green, are two widely used resources. They provide a range of annual maintenance and repair costs from 2

percent to 10 percent of the fixed capital investment of the stationary source. These two resources, however, are limited to the chemical process industry and may not have broader applicability to other industry sectors (although there may be comparable resources for other industries). Based on information contained in the resources mentioned above, the appropriate annual maintenance percentages would be in the range of 0.5 percent to 20 percent, depending on the industry.

To the extent that we have data, we intend in the final rule to set different percentages for specific industry categories. In selecting appropriate industry-specific percentages, it would be helpful if further information is made available to us during the public comment period for this proposal; therefore, we are requesting that information relating to types of maintenance, repair and replacement activities undertaken and costs associated with those activities be provided during the public comment period on this proposed rule. For example, relevant information for the electric utility industry might be available from the NERC/GADS database, the Federal Energy Regulatory Commission, or the Integrated Environmental Control Model maintained by the Energy and Environmental Center at Carnegie-Mellon University. Commenters should provide actual source, company or industry information, as well as any other data underlying summaries. Substantiated claims and estimates will be given greater consideration than information not supported by actual data. If there is a lack of information with which to set industry specific percentages, we may elect to set a default value. We are seeking comment on the appropriate default percentage to be used, and/or methods available to determine that percentage.

E. How To Calculate Costs

In order for a cost-based approach to be equitable, all owners or operators must include the same categories of expenses in both the replacement cost and the cost sought to be covered by the allowance. Therefore, we believe it may be appropriate to require that costs be calculated using an approach along the lines set out as the elements of Total Capital Investment as defined in the *EPA Air Pollution Control Cost Manual* (http://www.epa.gov/ttn/catc/dir1/c_allchs.pdf). While the manual contains basic concepts that could be used to estimate total capital investment at a process unit, it is geared toward cost calculations for add-on control

equipment. On the other hand, the underlying concepts are taken from work done by the American Association of Cost Engineers to define the components of cost calculations for all types of processes, not just emission control equipment.

We invite comment on whether we should use the manual as the mechanism for standardizing these calculations, whether we should use other manuals, or whether it might make sense to give sources a range of manuals whose approach to this question we believe may be appropriate for their circumstances. We also invite comment on whether EPA should require use of the manuals identified or simply provide assurance that if methods in an identified manual are used, EPA will accept them.

Under the EPA Manual, Total Capital Investment includes the costs required to purchase equipment, the costs of labor and materials for installing the equipment (direct installation costs), costs for site preparation and buildings, and certain other indirect installation costs. However, any costs associated with the installation and maintenance of pollution control equipment would be excluded from the cost calculation. For the purposes of this maintenance, repair and replacement allowance, we believe that equipment that serves a dual purpose of process equipment and control equipment (that is, combustion equipment used to produce steam and to control Hazardous Air Pollutant emissions, exhaust conditioning in the semiconductor industry, etc.) should be considered process equipment. We ask for comment on this point.

Direct installation costs include costs for foundations and supports, erecting and handling the equipment, electrical work, piping, insulation, and painting. Indirect installation costs include such costs as engineering costs; construction and field expenses (that is, costs for construction supervisory personnel, office personnel, rental of temporary offices, etc.); contractor fees (for construction and engineering firms involved in the activity); startup and performance test costs; and contingencies.

We are also considering whether or not to exclude costs associated with the unanticipated shutdown of equipment, due to component failure or catastrophic failures such as explosions or fires, from the costs that must be included in the allowance. If costs associated with unanticipated outages are excluded, these activities would be subjected to a case-by-case review of NSR applicability. We request comment on whether or not repairs and

replacements resulting from the unanticipated shutdown of equipment, or of an entire source, should be included in the annual maintenance, repair and replacement allowance calculations.

F. Applicability Safeguards

We are proposing to include some safeguards in our rules. There are some relatively inexpensive activities that can be undertaken at a facility that we believe should not be included within the maintenance, repair and replacement allowance because, due to their very nature, they may significantly alter the design of the source or they may result in significantly greater emissions. Ineligibility for the allowance does not mean that the activities will necessarily be subject to NSR. These activities will still be eligible for treatment as RMRR under a case-by-case review, may qualify for other exclusions, may not require a major NSR permit because of emissions limitations in a synthetic minor limitation, or may be netted out of NSR applicability. We are proposing to include three such safeguards. (See § 51.165(a)(1)(xxxii)(B), § 51.166(b)(53)(ii), § 52.21(b)(55)(ii), and § 52.24(f)(25)(ii) of proposed rules.)

The first of the safeguards is that no new process unit may be added under the annual maintenance, repair and replacement allowance. The addition of a new process unit is not maintenance, repair or replacement of existing equipment at a stationary source in order to ensure continued safe and reliable operation and hence should not qualify for the allowance.

The second safeguard is that an owner or operator may not use the maintenance, repair and replacement allowance to replace an entire process unit. We do not believe that replacement of an entire process unit should qualify for the allowance. Because of their nature, wholesale exchanges of a process unit should be subject to greater scrutiny in determining NSR applicability than use of the maintenance, repair and replacement allowance would entail.

The third safeguard is not allowing any activity that results in an increase in maximum achievable hourly emissions rate of a regulated NSR pollutant at the stationary source or in the emission of any regulated NSR pollutant not previously emitted to be excluded under the annual maintenance, repair and replacement allowance. Such activities are more likely to result in possible significant emissions increases and, therefore, should not be excluded from NSR on

the basis that they fall within the maintenance, repair and replacement allowance. We request comment on the appropriateness and adequacy of these proposed safeguards or any additional safeguards that may be appropriate.

G. Timing of Determination

Under the annual maintenance, repair and replacement allowance as proposed, an owner or operator will sum the costs of maintenance, repair and replacement activities from least to most expensive to determine which activities are excluded pursuant to the allowance. Actual activity costs will not be known until activities are underway or completed. We have considered two options for the timing of the decision regarding qualification of activities under the annual maintenance, repair and replacement allowance when summing activities in this manner. The first is to require application of the allowance prior to construction based on planned activities and estimated costs. The second is to perform an end-of-year reconciliation after the activity costs are known.

If an end-of-year reconciliation is used, actual costs incurred would be known. However, if costs exceed the annual maintenance, repair and replacement allowance, some activities that have already been started or completed will have to be evaluated on a case-by-case basis unless already excluded from major NSR on some other basis. If it is determined that the activity is not RMRR and does not qualify for another exclusion, and it results in a significant emissions increase and a significant net emissions increase, and it is consequently subject to the requirements of NSR, the owner or operator would be in violation of the CAA for failure to obtain the necessary permit prior to commencing construction. In addition, if in a nonattainment area, the owner or operator could be required to obtain offsets, which may not be readily available in the area. The owner or operator may also be faced with penalties for constructing without a permit.

In practice, however, we do not believe this scenario is likely to occur. We expect that an owner or operator who intended to rely on the annual maintenance, repair and replacement allowance would have planned the year's activities accordingly and would be tracking activities throughout the year in order to avoid this situation.

We believe requiring an end-of-year reconciliation strikes a reasonable balance, since it will lead owners or operators to make preconstruction

estimates of activities and costs in order to determine qualification for the exclusion but will not require them to become involved in permitting-type actions with respect to excluded activities. Finally, it is not possible for an owner or operator to plan all maintenance, repair and replacement needs, so there will be inaccuracies in any estimation no matter how diligent an owner or operator may be in seeking to plan these activities.

We have considered two other possible ways to address this situation. The first is to allow any unplanned activity to undergo a case-by-case determination of RMRR. However, this method might create an incentive to omit smaller, less expensive activities from the preconstruction estimation in order to avoid a case-by-case review on larger activities. The second is to make ineligible for the use of the maintenance, repair and replacement allowance any activity that was not included in the preconstruction estimation. But that seems unreasonable, since as noted above actual activity costs may be unintentionally underestimated or omitted, resulting in actual activity costs exceeding the annual maintenance, repair and replacement estimates.

After considering the options, we believe that an evaluation based on actual data rather than estimates is preferable. Careful planning by an owner or operator should reduce the likelihood that the annual allowance is exceeded for activities that the owner believes will come within the allowance. Moreover, a prudent owner or operator who believes his RMRR activities will be close to exceeding the allowance will determine whether more costly activities are otherwise excluded, evaluate them under the case-by-case test, or seek an applicability determination or a permit to assure compliance with NSR requirements. Therefore, we are proposing to determine qualification for the exclusion through an end-of-year reconciliation. (See § 51.165(a)(1)(xxxii)(A)(5), § 51.166(b)(53)(i)(e), § 52.21(b)(55)(i)(e), and § 52.24(f)(25)(i)(e) of proposed rules).

One other possible approach to this question would be to sum costs in the order they occur, rather than from least expensive to most expensive.

Under that approach, an owner or operator would maintain a running total of maintenance, repair and replacement costs and could determine before beginning construction on a subsequent activity if there was room under the

annual maintenance, repair and replacement allowance. However, this process might encourage an owner or operator to delay less costly activities in order to use the annual maintenance, repair and replacement allowance for activities that are both larger and more atypical and, therefore, might not qualify for RMRR treatment.

Maintaining the least expensive to most expensive methodology discussed above, we could address the issue through an expedited case-by-case review of larger activities. An owner or operator would be responsible for obtaining a case-by-case determination from the reviewing authority for larger activities to ensure that an activity would still be considered RMRR if it is later found that the activity could not be accommodated under the annual maintenance, repair and replacement allowance. This, however, is inconsistent with our intent that owners or operators be able to use these provisions without obtaining an advance determination from the reviewing authority.

Finally, rather than establishing an annual cost threshold to define what activities fit within the allowance, we could establish a threshold per activity. Activities whose costs fell below the threshold could proceed as RMRR. Activities with costs above the threshold would be ineligible to use the allowance, and thus could only constitute RMRR if they either fell within the portion of the RMRR exclusion for equipment replacements or constitute RMRR upon an application of the case-by-case test. We are proposing a similar approach for replacement of equipment with functional equivalents. But we believe that any broader activity-based approach would have the undesirable consequence of forcing industry and the reviewing authorities to address potentially complex questions about how to define whether activities are truly separate and hence below the threshold or whether they are part of some larger activity that exceeds the threshold.

To summarize, at this time we are proposing an annual maintenance, repair and replacement allowance; to sum activities from least expensive to most expensive to determine eligibility; and an end-of-year review and report. We request comment on each of these aspects of the proposal and any additional approaches that commenters wish to recommend.

VII. Discussion of Issues Under the Equipment Replacement Approach

We recognize that there are numerous occasions when, to maintain, facilitate, restore, or improve efficiency, reliability, availability, or safety within normal facility operations, facilities replace existing equipment with either identical equipment or equipment that serves the same function. Such replacements may be conducted immediately after component failure or they may be conducted preventively to assure a source's continued safe, reliable and efficient operation. We believe that many such replacements typically should be considered RMRR activities. But, allowing replacement of equipment with "functionally equivalent" or "identical" equipment to qualify as RMRR, if unbounded, could theoretically allow replacement of an entire production line or utility boiler. Thus, there must also be some reasonable bound to equipment replacements that qualify.

The following discussion addresses key considerations in determining the appropriate boundary for the types of replacement activities that should be excluded under the equipment replacement provision of the RMRR exclusion.

A. Replacement of Existing Equipment With Identical or Functionally Equivalent Equipment

One of today's proposals deals with replacing equipment with identical or functionally equivalent equipment. This proposal is based on our view that most replacements of existing equipment that are necessary for the safe, efficient, and reliable operation of practically all industrial operations are not of regulatory concern and should qualify for the RMRR exclusion. Industrial facilities are constructed with the understanding that equipment failures are common and ongoing maintenance programs are routine. Delaying or foregoing maintenance could lead to failure of the production unit and may create or add to safety concerns.

When such equipment replacement occurs and the replacement is identical, the replacement is inherent to both the original design and purposes of the facility, and ordinarily will not increase emissions. For example, if a pump associated with a distillation column fails and is replaced with an identical new pump, we believe that such a common activity is and should be considered an excluded replacement. We believe that activities like such pump replacements are routine and